

Application of South Carolina Electric & Gas
 Company for a Certificate of Environmental
 Compatibility and Public Convenience and Necessity
 for the Construction and Operation of a 230 kV
 Transmission Line from Its Denny Terrace
 Transmission Substation to Its Pineland
 Transmission Substation

COVER SHEET

DOCKET

NUMBER: 2010 - 238 - E

(Please type or print)

Submitted by: K. Chad BurgessSC Bar Number: 69456Address: SCANA Corp.Telephone: 803-217-8141220 Operation Way MC C222Fax: 803-217-7931Cayce, SC 29033

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DOCKETING INFORMATION (Check all that apply)

☐ Emergency Relief demanded in petition☐ Request for item to be placed on Commission's Agenda expeditiously☐ Other: _____

| INDUSTRY (Check one) | NATURE OF ACTION (Check all that apply) | | | |
|--|--|---|--|--|
| <input checked="" type="checkbox"/> Electric | <input type="checkbox"/> Affidavit | <input type="checkbox"/> Letter | <input type="checkbox"/> Request | |
| <input type="checkbox"/> Electric/Gas | <input type="checkbox"/> Agreement | <input type="checkbox"/> Memorandum | <input type="checkbox"/> Request for Certification | |
| <input type="checkbox"/> Electric/Telecommunications | <input type="checkbox"/> Answer | <input type="checkbox"/> Motion | <input type="checkbox"/> Request for Investigation | |
| <input type="checkbox"/> Electric/Water | <input type="checkbox"/> Appellate Review | <input type="checkbox"/> Objection | <input type="checkbox"/> Resale Agreement | |
| <input type="checkbox"/> Electric/Water/Telecom. | <input type="checkbox"/> Application | <input type="checkbox"/> Petition | <input type="checkbox"/> Resale Amendment | |
| <input type="checkbox"/> Electric/Water/Sewer | <input type="checkbox"/> Brief | <input type="checkbox"/> Petition for Reconsideration | <input type="checkbox"/> Reservation Letter | |
| <input type="checkbox"/> Gas | <input type="checkbox"/> Certificate | <input type="checkbox"/> Petition for Rulemaking | <input type="checkbox"/> Response | |
| <input type="checkbox"/> Railroad | <input type="checkbox"/> Comments | <input type="checkbox"/> Petition for Rule to Show Cause | <input type="checkbox"/> Response to Discovery | |
| <input type="checkbox"/> Sewer | <input type="checkbox"/> Complaint | <input type="checkbox"/> Petition to Intervene | <input type="checkbox"/> Return to Petition | |
| <input type="checkbox"/> Telecommunications | <input type="checkbox"/> Consent Order | <input type="checkbox"/> Petition to Intervene Out of Title | <input type="checkbox"/> Stipulation | |
| <input type="checkbox"/> Transportation | <input type="checkbox"/> Discovery | <input checked="" type="checkbox"/> Prefiled Testimony | <input type="checkbox"/> Subpoena | |
| <input type="checkbox"/> Water | <input type="checkbox"/> Exhibit | <input type="checkbox"/> Promotion | <input type="checkbox"/> Tariff | |
| <input type="checkbox"/> Water/Sewer | <input type="checkbox"/> Expedited Consideration | <input type="checkbox"/> Proposed Order | <input type="checkbox"/> Other: _____ | |
| <input type="checkbox"/> Administrative Matter | <input type="checkbox"/> Interconnection Agreement | <input type="checkbox"/> Protest | | |
| <input type="checkbox"/> Other: | <input type="checkbox"/> Interconnection Amendment | <input type="checkbox"/> Publisher's Affidavit | | |
| | <input type="checkbox"/> Late-Filed Exhibit | <input type="checkbox"/> Report | | |



K. Chad Burgess
Assistant General Counsel

chad.burgess@scana.com

August 17, 2010

VIA HAND DELIVERY

The Honorable Jocelyn G. Boyd
Chief Clerk/Administrator
Public Service Commission of South Carolina
101 Executive Center Drive (29210)
Post Office Drawer 11649
Columbia, South Carolina 29211

RE: Application of South Carolina Electric & Gas Company for a Certificate of Environmental Compatibility and Public Convenience and Necessity for the Construction and Operation of a 230 kV Transmission Line from Its Denny Terrace Transmission Substation to Its Pineland Transmission Substation
Docket No. 2010-238-E

Dear Ms. Boyd:

Enclosed for filing on behalf of South Carolina Electric & Gas Company ("SCE&G" or "Company") in the above-captioned docket is the direct testimony and exhibits of Hubert C. Young, III and Dwight M. Hollifield.

By copy of this letter, we are providing the other parties of record with a copy of SCE&G's direct testimony and attach a certificate of service to that effect.

If you have any questions, please advise.

Very truly yours,

K. Chad Burgess

KCB/kms
Enclosures

cc: Mr. John Frampton
Mr. Jeffrey M. Nelson, Esquire
Mr. Chad Prosser
Mr. Carlisle Roberts, Esquire
(all via First Class U.S. Mail w/enclosures)

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2010-238-E

IN RE:

Application of South Carolina Electric)
& Gas for a Certificate of Environmental)
Compatibility and Public Convenience and)
Necessity for the Construction and)
Operation of a 230 kV Transmission Line)
From Its Denny Terrace Transmission)
Substation to Its Pineland Transmission)
Substation)
_____)

**CERTIFICATE
OF SERVICE**

This is to certify that I have caused to be served this day one (1) copy of South Carolina Electric & Gas Company's **Direct Testimony and Exhibits of Hubert C. Young, III and Dwight M. Hollifield** via First Class U.S. Mail to the persons named below at the addresses set forth:

Jeffrey M. Nelson, Esquire
Office of Regulatory Staff
1401 Main Street, Suite 900
Columbia, SC 29201

John E. Frampton
SC Department of Natural Resources
PO Box 167
Columbia, SC 29202

Chad Prosser
SC Department of Parks, Recreation & Tourism
1205 Pendleton Street, Suite 248
Columbia, SC 29201

Carlisle Roberts, Esquire
SC Department of Health and Environmental Control
Legal Department
2600 Bull Street
Columbia, SC 29201


Karen M. Scruggs

Columbia, South Carolina

This 17th day of August 2010

1 **DIRECT TESTIMONY OF**

2 **HUBERT C. YOUNG, III**

3 **ON BEHALF OF**

4 **SOUTH CAROLINA ELECTRIC & GAS COMPANY**

5 **DOCKET NO. 2010-238-E**

6
7 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION.**

8 A. My name is Hubert C. Young, III. My business address is 601 Old Taylor
9 Road, MC J37, Cayce, South Carolina 29033. I am employed by South Carolina
10 Electric & Gas Company ("SCE&G" or "Company") where I am the Manager of
11 Transmission Planning.

12 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND BUSINESS**
13 **BACKGROUND.**

14 A. I am a graduate of Clemson University with a Bachelor of Science degree in
15 Electrical and Computer Engineering. I am a registered Professional Engineer in the
16 State of South Carolina.

17 I began working for SCE&G in 1975 and during my career with the Company
18 I have held a number of positions in the Engineering Computer Support Department
19 and Transmission Planning.

1 **Q. ARE YOU A MEMBER OF ANY INDUSTRY COMMITTEES FOR**
2 **SYSTEM RELIABILITY ASSESSMENT OR PLANNING?**

3 A. I am currently a member of the North American Electric Reliability
4 Corporation ("NERC") Reliability Assessment Subcommittee, the NERC Standards
5 Authorization Request Ballot Body, the SERC Reliability Corporation (formerly
6 known as the Southeastern Electric Reliability Council and hereinafter referred to as
7 "SERC") Engineering Committee, the SERC Engineering Committee Executive
8 Committee, the SERC Reliability Review Subcommittee, the SERC Regional
9 Studies Executive Committee, the VACAR/Southern/TVA/Entergy Executive
10 Committee, the VACAR (Virginia/C Carolinas – includes SCE&G, Duke Energy
11 Carolinas, Progress Energy Carolinas, Virginia Power, Santee Cooper, SEPA,
12 NCEMC, and Fayetteville, NC) Executive Committee, the Carolinas Transmission
13 Planning Coordination Agreement Principal Planners Committee, the Eastern
14 Interconnection Planning Collaborative ("EIPC") Technical Committee, and the
15 EIPC Stakeholder Steering Committee.

16 All of these committees are directly involved with setting reliability standards
17 for the electric power industry or assessing the current and future capabilities of the
18 integrated transmission grid in North America, the Southeast, and the
19 Virginia/C Carolinas.

1 **Q. PLEASE SUMMARIZE YOUR DUTIES AS MANAGER OF**
2 **TRANSMISSION PLANNING AT SCE&G.**

3 A. I oversee the planning and associated analyses of the SCE&G electric
4 transmission system and all interconnection transmission facilities with
5 neighboring utilities to ensure a reliable and cost effective delivery of electric
6 power to SCE&G customers while developing and maintaining strategically
7 supportive infrastructure to sustain and further South Carolina's economic
8 development and the Company's financial integrity.

9 **Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.**

10 A. The purpose of my testimony is to discuss the need and necessity for the
11 construction of the new Denny Terrace-Pineland 230 kilovolt ("kV") Line in the
12 northeastern portion of Columbia as shown on the map attached hereto as Exhibit
13 No. __ (HCY-1).

14 This project includes the construction of a new 230 kV transmission line
15 between the existing Denny Terrace and Pineland Transmission Substations. This
16 proposed line is approximately 8.0 miles in length. An approximate 3.5-mile
17 segment of the proposed line will be built in the existing V.C. Summer-Denny
18 Terrace 230 kV Line right-of-way using double circuit, steel or concrete pole
19 structures, and an approximate 1.5-mile segment of the proposed line will be built in
20 the existing V.C. Summer-Pineland 230 kV Line right-of-way using single circuit,
21 steel or concrete poles. The remaining 3.0-mile segment of the proposed line will

1 require new right-of-way on single-circuit, steel or concrete poles. Right-of-way
2 acquisition and permitting is underway.

3 **Q. WHAT CRITERIA DOES SCE&G USE TO DETERMINE WHEN NEW**
4 **TRANSMISSION FACILITIES ARE NEEDED?**

5 A. The Company uses external and internal criteria to guide its decision-
6 making related to the development of new transmission facilities. Externally, our
7 Company subscribes to the Transmission Planning Standards established by
8 NERC and internally SCE&G adheres to its Long Range Planning Criteria. In
9 accordance with these criteria, the SCE&G Transmission System is designed so
10 that only short-time overloads, low voltages, and local loss of load will occur
11 during certain contingencies. After appropriate switching and re-dispatching, all
12 non-radial loads can again be served with reasonable voltages, and all facilities
13 can again operate within acceptable limits. A *sample* of contingencies considered
14 includes:

- 15 1. Loss of any generator;
- 16 2. Loss of any transmission circuit operating at a voltage level of 115 kV or
17 above;
- 18 3. Loss of any transmission transformer;
- 19 4. Loss of any electrical bus and associated facilities operating at a voltage
20 level of 115 kV or above;
- 21 5. Loss of entire generating capacity in any one plant;

- 1 6. Loss of all circuits on a common structure;
- 2 7. Loss of any generating unit simultaneously with the loss of a single
- 3 transmission line;
- 4 8. Loss of all components associated with a breaker failure; and
- 5 9. Loss of any generator, transmission circuit, or transmission transformer,
- 6 followed by manual system adjustments, followed by the loss of another
- 7 generator, transmission circuit, or transmission transformer.

8 **Q. WHY IS THE PROPOSED DENNY TERRACE-PINELAND 230 kV LINE**
9 **NEEDED?**

10 A. SCE&G's electric transmission system is designed in accordance with the
11 NERC Planning Standards and SCE&G's Internal Planning Criteria. These
12 criteria and standards require that the system be designed to withstand specific
13 events on the electrical system while continuing to serve firm load and provide
14 firm transmission services.

15 SCE&G's Transmission Planning studies show that the northeastern
16 portions of Columbia have experienced increases in customer load demand of
17 approximately 12 to 15 megawatts ("MW") per year over the past several years.
18 Although economic conditions have reduced the projected overall load growth in
19 the short term, the Columbia northeast area and the areas surrounding the
20 Interstate Highway 77 corridor continue to have substantial load increases with
21 customer load demand in the Blythewood, Pineland, and Killian areas now
22 exceeding 300 MW.

1 At present, the area's three substations (Killian, Pineland, and Denny
2 Terrace) are predominately served by two 230 kV lines (the V.C. Summer-
3 Pineland 230 kV Line and the Wateree-Killian 230 kV Line) and four 115 kV
4 lines. This local network of facilities is designed so that, even during reasonable
5 and probable system outages, these interconnected facilities support each other in
6 a manner that maintains electrical service to customers in the area or allows for
7 quick service restoration to interrupted customers.

8 According to SCE&G's Planning Criteria, if SCE&G lost both the V.C.
9 Summer-Pineland and Wateree-Killian 230 kV Lines, the 300 MW load demand
10 in the Blythewood, Pineland, and Killian areas would rely on service from the four
11 115 kV lines, which would result in low voltage and equipment overload
12 conditions in the Columbia northeast area.

13 Due to continued load growth in the area, SCE&G currently forecasts that
14 the existing facilities in the Columbia northeast area will have inadequate capacity
15 to provide an acceptable level of support to each other as early as the summer of
16 2011. The most reasonable and effective solution to this problem is the
17 connection of the existing Denny Terrace and Pineland 230/115 kV transmission
18 substations with a new 230 kV transmission line. This new line will ensure that
19 SCE&G remains in compliance with applicable NERC standards, continues to
20 provide the level of electric service that its customers enjoy and expect, and
21 enhances system reliability.

1 **Q. DOES THE PROPOSED FACILITY ALSO SERVE SYSTEM ECONOMY?**

2 A. Yes. The proposed facility serves system economy in two ways. First,
3 when the need to minimize environmental, land use, cultural resource and
4 aesthetic effects is considered, this proposed facility is the most cost-effective,
5 long-term solution to increase reliability for the customers in the Columbia
6 northeast area and the areas surrounding the Interstate Highway 77 corridor.
7 Second, the proposed facility also serves system economy by increasing the
8 efficiency of SCE&G's physical plant operations.

9 **Q. WITH REGARD TO THE FIRST POINT, DID SCE&G CONSIDER**
10 **OTHER POSSIBLE ALTERNATIVES TO THE NEW TRANSMISSION**
11 **FACILITY?**

12 A. Yes. SCE&G considered the possible alternatives of either taking no action
13 or promoting conservation through load management programs. The Company
14 determined that these alternatives would not provide its customers with long-term
15 electrical system reliability.

16 In addition, SCE&G also considered two other transmission system
17 expansion options—(1) construct a new switching station in North Columbia and
18 construct a new 230 kV Line from the new switching station to the existing
19 Pineland Transmission Substation and (2) reconstruct the two existing Denny
20 Terrace-Pineland 115 kV Lines, construct a new switching station in North
21 Columbia, and construct a new 230 kV Line from the new switching station to the
22 existing Pineland Transmission Substation. These other transmission system

1 expansion options were significantly more costly than the line proposed in this
2 filing, and thus these options were not selected.

3 **Q. WITH REGARD TO THE SECOND POINT, PLEASE EXPLAIN HOW**
4 **THIS PROPOSAL IMPROVES SYSTEM EFFICIENCY.**

5 A. This project serves system efficiency in that the construction of the
6 transmission lines and associated substation permits SCE&G to split the load on
7 its facilities, which is more efficient. Splitting the load between the existing and
8 proposed transmission lines and substations ensures that the equipment is not
9 overloaded and provides for less energy loss over the lines.

10 **Q. PLEASE DESCRIBE THE PROCESS BY WHICH SCE&G SELECTED**
11 **THE ROUTE FOR THE DENNY TERRACE-PINELAND 230 kV LINE.**

12 A. SCE&G conducted a comprehensive transmission line siting study to select
13 the route for the Denny Terrace-Pineland 230 kV Line. As part of this study,
14 SCE&G identified a 14.8 square mile geographic area through which any practical
15 transmission route would pass. The Company collected and developed an array of
16 environmental, land use, cultural resource, and aesthetic data that fully
17 characterized the siting study area. From this information, SCE&G developed a
18 suitability composite, which displayed areas of least constraint to routing, areas of
19 highest constraint, and a full range of conditions in between. Using this
20 composite, SCE&G identified forty (40) potential routes for the Denny Terrace-
21 Pineland 230 kV Line. SCE&G completed a thorough evaluation of each of these

1 alternate routes and determined that the selected route best minimized adverse
2 effects to the broadest range of factors.

3 SCE&G also completed a comprehensive cost estimate of the top ten
4 potential routes as determined by the Company's thorough quantitative and
5 qualitative evaluations of the routes. Although the selected route ranked as the 9th
6 most economical route among the top ten alternate routes, SCE&G determined
7 that the advantages of the selected route with regard to minimizing environmental,
8 land use, cultural resource, and aesthetic effects justified its selection.

9 **Q. WHAT IS THE ESTIMATED COST AND IN-SERVICE DATE OF THE**
10 **PROPOSED TRANSMISSION LINE?**

11 A. The total cost of construction for the 230 kV line and the associated
12 substation modification is \$4,914,000. The new line is scheduled to be in service
13 in May 2011.

14 **Q. IS THERE A REASONABLE ASSURANCE THAT THE PROPOSED**
15 **DENNY TERRACE-PINELAND 230 kV LINE WILL CONFORM TO**
16 **APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS?**

17 A. Yes. SCE&G currently operates all of its existing transmission facilities
18 within the applicable state and local laws and regulations, and we are committed to
19 operating the proposed Denny-Terrace Pineland 230 kV Line within applicable
20 state and local laws and regulations as well.

1 **Q. DOES THE PUBLIC CONVENIENCE AND NECESSITY REQUIRE THE**
2 **CONSTRUCTION OF THE DENNY TERRACE-PINELAND 230 kV LINE?**

3 A. Yes, the public convenience and necessity requires construction of the
4 Denny Terrace-Pineland 230 kV Line. The Denny Terrace-Pineland 230 kV Line
5 will increase transmission capacity to provide support to existing facilities, thereby
6 allowing SCE&G to continue to provide safe, reliable power to its customers in
7 the Columbia northeast area and the areas surrounding the Interstate Highway 77
8 and ensuring that SCE&G remains in compliance with applicable NERC
9 standards. The new line results in no significant short-term or long-term
10 environmental impacts and serves the interests of system economy and reliability.

11 **Q. WHAT ARE YOU ASKING THIS COMMISSION TO DO?**

12 A. SCE&G respectfully asks that the Commission issue a Certificate of
13 Environmental Compatibility and Public Convenience and Necessity for the
14 construction and operation of the proposed Denny Terrace-Pineland 230 kV Line.

15 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

16 A. Yes.

DIRECT TESTIMONY OF
DWIGHT M. HOLLIFIELD, ASLA
ON BEHALF OF
SOUTH CAROLINA ELECTRIC & GAS COMPANY
DOCKET NO. 2010-238-E

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dwight M. Hollifield. My business address is 10101 Claude Freeman Drive, Suite 100-W, Charlotte, NC 28262.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Pike Electric, Inc. ("Pike Electric") as Director of the Facilities Planning & Siting department ("FPS"). Pike Electric is headquartered in Mt. Airy, North Carolina.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND, PROFESSIONAL ASSOCIATIONS, AND BUSINESS EXPERIENCE.

A. I received an AS degree in horticulture from Catawba Valley College in 1967. I have been a registered landscape architect in South Carolina since 1976 and am a member of the American Society of Landscape Architects.

I was employed by Duke Power Company (now known as Duke Energy Carolinas, LLC) and Duke Engineering & Services from July 1967 until May 2002 when Framatome ANP purchased Duke Engineering & Services. While at Duke Power, I led the development of a comprehensive transmission line siting

1 process that FPS now executes when siting lines for various electrical utility
2 clients, including South Carolina Electric & Gas Company ("SCE&G"). I was
3 directly involved in the expansion of Duke Power's electrical transmission system,
4 particularly as it related to siting and site development planning for substations
5 and transmission lines. As manager of Duke Power's Transmission Siting and
6 Landscape Architecture Department, my responsibilities included siting
7 transmission lines, which involved conducting studies to assess the environmental,
8 cultural resource, land use, and aesthetic effects of those transmission line
9 projects. I had responsibility for obtaining all necessary permits and licenses for
10 new transmission lines.

11 In 1995, my department moved from Duke Power to Duke Engineering &
12 Services, and we began siting transmission lines for various electric utility clients,
13 primarily in North Carolina, South Carolina and Georgia. We continued to site all
14 new transmission lines for Duke Power.

15 When Duke Engineering & Services was acquired by Framatome ANP, I
16 served as general manager of Framatome's Facilities Planning & Siting
17 Department, and siting transmission lines and electrical substations continued to
18 be our primary service offering. Framatome's Facilities Planning & Siting
19 Department continued to site lines for Duke Power and for many other clients,
20 including SCE&G.

21 In 2005, two business associates and I acquired my department from
22 Framatome ANP and organized it as a limited liability company named Facilities

1 Planning & Siting, LLC. I served as president of Facilities Planning & Siting,
2 LLC until June 30, 2009, when we were acquired by Pike Electric. While
3 operating as a limited liability company and now as a department within Pike
4 Electric, our primary service offering was, and continues to be, the siting,
5 permitting and licensing of electrical transmission lines and substations.

6 From 1990 until 2002, I represented Duke Energy on the Edison Electric
7 Institute's Siting and Environmental Planning Task Force. In 1991, I was
8 appointed to and served on the North Carolina Utilities Commission Rulemaking
9 Committee that drafted Rule R8-62, which is used by the Commission to
10 administer the provisions of North Carolina's Transmission Line Siting Act.

11 Since 1987, I have participated in and managed the successful siting and
12 permitting of more than 175 transmission lines, virtually all of which are located
13 in North and South Carolina.

14 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

15 A. The purpose of my testimony is to discuss the transmission line siting
16 methodology that SCE&G, in collaboration with FPS, utilized when choosing the
17 route for the Denny Terrace-Pineland 230 kilovolt ("kV") Line. My company
18 collected, mapped and analyzed extensive information regarding environmental,
19 land use, cultural resource, and visual effects of the proposed Denny Terrace-
20 Pineland 230 kV Line.

1 **Q. DO YOU HAVE ANY DOCUMENTS THAT SUPPORT OR ILLUSTRATE**
2 **YOUR TESTIMONY?**

3 A. Yes. As SCE&G's siting and project permitting consultant, I am the author
4 of the Siting and Environmental Report for the Denny Terrace-Pineland 230 kV
5 Line ("Report"), which was attached to SCE&G's Application in this docket and is
6 attached to this testimony as Exhibit No. ____ (DMH-1). This report details the
7 need for the Denny Terrace-Pineland 230 kV Line, the process by which SCE&G
8 selected the route for the 230 kV Line, and the research and studies conducted
9 regarding the environmental, land use, cultural resource, and visual effects of the
10 future Denny Terrace-Pineland 230 kV Line.

11 **Q. PLEASE DESCRIBE THE PROPOSED LINE'S ROUTE AND ANY**
12 **ALTERNATE ROUTES THAT MAY HAVE BEEN CONSIDERED IN**
13 **ADDITION TO IT.**

14 A. The proposed Denny Terrace-Pineland 230 kV Line will be approximately
15 8.0 miles long. The proposed line will originate at the Denny Terrace Transmission
16 Substation and run alongside the existing V.C. Summer-Denny Terrace 230 kV Line
17 for approximately 3.5 miles. At a point approximately 0.4 miles west of Crane
18 Church Road, the proposed line will depart from the existing V.C. Summer-Denny
19 Terrace 230 kV Line and run for approximately 3.0 miles in an easterly direction,
20 crossing over Crane Church Road, U.S. Highway 321, and Wessinger Road before
21 reaching the existing V.C. Summer-Pineland 230 kV Line. At this point, the
22 proposed line will run approximately 1.5 miles alongside the existing V. C. Summer-

Pineland 230 kV Line to the Pineland Transmission Substation. See Exhibit No. ____
(HCY-1).

SCE&G conducted a comprehensive line siting study to determine the route for the Denny Terrace-Pineland 230 kV Line. A siting project area was delineated that included the entire geographic area through which any practical transmission line route between the existing Denny Terrace and Pineland 230/115 kV Substations would pass. Data was collected to characterize the project area and to identify any environmental, land use, or cultural resource factors that should be taken into consideration during the Denny Terrace-Pineland 230 kV Line siting study. After mapping an array of data, receiving input from the community, local officials, and developers, and conducting a quantitative and qualitative analysis and a comprehensive cost estimate, SCE&G determined that the above-described route would be superior to any alternate route. The following reasons support this selection:

1. The selected route will minimize any environmental, land use, cultural resource, and aesthetic effects while remaining within a justifiable range of estimated cost.
2. The selected route reflects community priorities by minimizing the proximity to and visibility from occupied buildings.
3. The selected route maximizes the use of existing SCE&G right-of-way while minimizing the requirement for additional new right-of-way.

1 4. The selected route is compatible with Richland County's Crane Creek
2 Master Plan.

3 Based on my experience with conducting comparative evaluations of
4 alternate transmission line routes through the application of quantified and
5 qualitative environmental, land use, cultural resource, and visual resource factors,
6 SCE&G's selection of the chosen route for the Denny Terrace-Pineland 230 kV
7 Line was proper.

8 **Q. PLEASE DESCRIBE THE ENVIRONMENTAL IMPACTS OF THE**
9 **PROPOSED TRANSMISSION LINES AND ASSOCIATED FACILITIES.**

10 A. The construction and operation of the Denny Terrace-Pineland 230 kV Line
11 will not have any significant short- or long-term impacts on the environment.
12 SCE&G will utilize established wetland protection guidelines when operating near
13 or within wetland areas. The function of wetlands crossed by the Denny Terrace-
14 Pineland 230 kV Line will not be changed, and no wetlands will be converted to
15 uplands. SCE&G will also apply its longstanding practices and procedures for
16 operations within wetlands, which have proven to be totally effective in preventing
17 temporary, construction-related impacts to wetlands and stream buffer zones. No
18 rare, threatened, or endangered species will be adversely impacted by the project.

1 **Q. WHAT WAS THE CONCLUSION OF THE ENVIRONMENTAL AND**
2 **BIOLOGICAL STUDIES THAT WERE CONDUCTED FOR THIS**
3 **PROJECT?**

4 A. The proposed 230 kV Line will have no significant short- or long-term
5 effects on the environment.

6 **Q. WHAT WAS THE CONCLUSION OF THE CULTURAL RESOURCE**
7 **INVESTIGATION THAT WAS CONDUCTED ALONG THE ROUTE OF**
8 **THE PROPOSED LINE?**

9 A. The proposed 230 kV Line will have no adverse effect on historic sites or
10 historic districts.

11 **Q. WHAT WILL BE THE VISUAL EFFECTS OF THE PROPOSED 230 kV**
12 **LINE?**

13 A. The proposed 230 kV Line will have very low overall visual effects because it
14 will share an existing SCE&G right-of-way with other existing transmission lines for
15 the majority of its total length (approximately 5.0 miles of its approximate 8.0 miles
16 total length) and because the remaining 3.0 miles of its total length will run through a
17 generally remote area with existing trees on each side of the right-of-way.

1 Q. IS THE IMPACT, IF ANY, OF THE PROPOSED DENNY TERRACE-
2 PINELAND 230 kV LINE UPON THE ENVIRONMENT JUSTIFIED
3 CONSIDERING THE STATE OF AVAILABLE TECHNOLOGY AND THE
4 NATURE AND ECONOMICS OF THE VARIOUS ALTERNATIVES?

5 A. Yes. As I stated earlier, the route that SCE&G chose for the Denny
6 Terrace-Pineland 230 kV Line minimizes any environmental, land use, cultural
7 resource, and aesthetic effects and is superior to any alternate route. Moreover, as
8 Witness Young stated in his testimony, SCE&G considered several alternatives to
9 the proposed line and determined that these alternatives would not provide its
10 customers with long-term electrical system reliability.

11 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

12 A. Yes.